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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/716,041	11/17/2000	William N. Partlo	2000-0086-1	7625

7590 11/26/2002

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Cymer Inc  
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EXAMINER

NGUYEN, JOSEPH H

ART UNIT PAPER NUMBER

2815

DATE MAILED: 11/26/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

09/716,041

Applicant(s)

PARTLO ET AL.

Examiner

Joseph Nguyen

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 22 October 2002.
- 2a) ☒ This action is **FINAL**.      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1 and 4-17 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1 and 4-17 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 17 November 2000 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

**Priority under 35 U.S.C. §§ 119 and 120**

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

**Attachment(s)**

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

**DETAILED ACTION**

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1, 13, 15, 4-8 and 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Algots in view of Osamu (JP '437).

Regarding claim 1, Algots et al discloses on figure 2 a grating based line narrowing device for line narrowing a laser producing high energy laser beams, said device comprising a grating 16 defining a grating face, a chamber for housing at least said grating, a helium source (col. 9, lines 40-41) for providing a helium purge for purging said chamber, a beam expanding means 18 for expanding a beam from said laser to produce an expanded beam, a tuning means for directing said expanded beam onto the grating face in order to select from said expanded beam a desired range of wavelength. Algots does not disclose a purge gas manifold for directing helium purge gas across the grating face to remove said purge gas layer to reduce optical distortion caused by said hot purge gas layer. However, Osamu '374 discloses on figure 1 a purge gas manifold 40 for directing helium purge gas across the grating face to remove said purge gas layer to reduce optical distortion caused by said hot purge gas layer. In view of such teaching, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Algots by having a purge gas manifold for

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directing helium purge gas across the grating face to remove said purge gas layer to reduce optical distortion caused by said hot purge gas layer for the purpose of reducing fluctuation of beam profile as taught by Osamu '374 (See Abstract).

Regarding claim 13, Algots et al discloses a feedback grating curvature control mechanism for providing active control of curvature of the grating face.

Regarding claim 15, Algots et al discloses a method of bandwidth control of a narrow band gas discharge laser having based line narrowing unit with grating 16 defining a grating face comprising the step of forcing a flow of gas across said grating face.

Regarding claims 4-8 and 14, Algots and Osamu '374 together disclose all the structure set forth in the claimed invention.

Claims 9-12, 16-17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Algots and Osamu ('374) as applied to claim 1 above, and further in view of Osamu (JP5-167172) et al.

Regarding claim 9, Algots and Osamu '374 disclose substantially all the structure set forth in the claimed invention except the helium purge gas flow being about 2 liters per minute. However, Osamu '172 et al discloses the helium purge gas flow is about 2 liters per minute. In view of such teaching, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Algots and Osamu ('374) by having the helium purge gas flow being about 2 liters per minute for the purpose of effectively cooling off the heat generated in the grating.

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Regarding claims 10-12, 16-17, Algots and Osamu '374 and Osamu '172 together discloses all the structure set forth in the claimed invention.

### ***Response to Arguments***

Applicant's arguments filed on 10/22/2002 have been fully considered but they are not persuasive.

With respect to claim 1, applicant argues that Algots does not disclose or suggest the manifold for directing a purge gas flow across the face of the grating. However, the combination of Algots and Osamu '374 would disclose this feature as recited in now amended claim 1. Further, applicant argues, "the '374 Osamu application does disclose gas flow across the face of the grating, however, listed inventors, in their application filed three months later, concluded that flow across the face of the grating must be avoided". However, it is clear that whether having a gas flow across the face of the grating or <sup>not</sup> merely depends on specific application. Osamu '172 clearly states, "to reduce fluctuation of beam profile and to acquire laser light of stable output by providing an air flow generating means which makes gas flow to a reflection surface of a diffraction grating" (See Abstract of Osamu '172) while Osamu '374 intends to eliminate the fluctuation of oscillation wavelength of output laser light due to the change of refractive index of gas on the grating surface (see Abstract of Osamu '374). As such, it is obvious that Osamu '172 and Osamu '374 have different approach and purpose to the two distinct inventions and thereby different applications.

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Joseph Nguyen whose telephone number is (703) 308-1269. The examiner can normally be reached on Monday-Friday, 7:30 am- 4:30 pm

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Eddie Lee can be reached on (703) 308-1690. The fax phone numbers for the organization where this application or proceeding is assigned is (703) 308-7382 for regular communications.

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Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0956.

JN

November 18, 2002

A handwritten signature in black ink, appearing to read 'Eddie Lee', with a large, sweeping loop at the top and a smaller loop at the bottom.

EDDIE LEE  
SUPERVISORY PATENT EXAMINER  
TECHNOLOGY CENTER 2800